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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/683,575

10/09/2003

Dicle Ozis

245-66956

9457

24197

7590

06/13/2006

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EXAMINER

FREJD, RUSSELL WARREN

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/683,575	Applicant(s) OZIS ET AL.	
	Examiner Russell Frejd	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9.7.04</u> . | 6) <input type="checkbox"/> Other: _____ |

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Examination of Application #10/683,575

1. Claims 1-63 of application 10/683,575, filed on 9-October-2003, are presented for examination.

Claim Rejections under 35 U.S.C. § 112, 2nd Paragraph

2. Claims 1, 3, 4, 11, 14, 15, 16, 19, 22, 25, 26, 27, 29, 32, 35, 38, 39, 44, 46, 47, 53, 54, 55, 56 and 61 are rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, particularly:

In claim 3, “a **heavily** doped substrate”. (emphasis added)

In claims 4, 15, 26 and 27, “a **lightly** doped substrate”.

In claims 14, 16, 19, 22, 25, 44 and 56, “based on a **simulation** or a **measurement**”.

In claims 39, “the **range** of contact sizes is from about 2.4 μm to about 100 μm ”, and 55, “an **area** between about 2.4 μm to about 100 μm ”. (Area should be in μm^2)

In claim 46, “values of x **substantially** equal to or greater then 10 μm ”.

In claims 1, 11, 29, 32, 35, 38, 44, 53 and 61, “**associated with**” .

In claim 47, “is from **about**”.

In claim 54, “is from **substantially**”.

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Claim Rejections under 35 U.S.C. § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

3.1 Claims 1-63 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The invention claims (claim 1 preamble), *"A method of substrate modeling"*; and more particularly, *"A method for determining a scalable Z parameter for a contact in a substrate, wherein the scalable Z parameter is associated with a resistance between the contact and a groundplane."* (claim 38 preamble)

3.2 MPEP Section 2106(IV)(B)(2)(b)(ii) provides that a statutory computer process is determined not by how the computer performs the process, but by what the computer does to achieve a practical application with a useful, concrete and tangible result. For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory, while a claimed process for digitally filtering noise employing the mathematical algorithm is statutory. The long line of cases in this area that are referred to in MPEP Section 2106(IV)(B)(2)(b)(ii) exemplify this requirement, by utilizing in the claim language, terms such as controlling, executing, changing and removing. In view of the aforementioned requirement, the Examiner respectfully contends that the claim language of independent claims 1, 29, 35, 38, 44, 53 and 61, do not claim a practical application with a tangible result, that language claiming:

(In claim 1) **determining** (emphasis added) scalable Z parameters associated with at least two substrate contacts; **constructing** a matrix of the scalable Z parameters for the at least

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two substrate contacts; and **calculating** an inverse of the matrix to determine resistance values associated with the at least two substrate contacts.

3.3 For at least these reasons, the Examiner respectfully posits that the claims of the present invention do not meet the criteria for a statutory process. Accordingly, the claims are determined to be a method for determining a scalable Z parameter for a contact in a substrate, consisting solely of mathematical operations, converting one set of numbers into another set of numbers, whereby the method does not manipulate appropriate subject matter, and thus cannot constitute a statutory process (MPEP Section 2106(IV)(B)(2)(c)).

Claim Rejections under 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.1 Claims 1, 29, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by the article authored by Chou et al., hereinafter Chou, entitled *Multilevel Integral Equation Methods for the Extraction of Substrate Coupling Parameters in Mixed-Signal IC's*.

Chou disclosed the invention as claimed, including : determining scalable Z parameters associated with at least two substrate contacts; constructing a matrix of the scalable Z parameters for the at least two substrate contacts; and calculating an inverse of the matrix to

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determine resistance values associated with the at least two substrate contacts [p. 20, Section I. Introduction].

Claim Objections

5. Claims 2-28, 30-34 and 36-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowed Claims

6. Claims 38-63 are deemed allowable over the prior art of record at this time, pending resolution of any rejections noted above.

Response Guidelines

7. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02, 710.02(b)).

7.1 Any response to the Examiner in regard to this non-final action should be

directed to: Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, or the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

mailed to: Commissioner of Patents and Trademarks
P.O. Box 1450, Alexandria, VA 22313-1450

or faxed to: (571) 273-8300

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Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

Date: 27-March-2006

RUSSELL FREJD

RUSSELL FREJD
PRIMARY EXAMINER